

Activities on the concept of model

In the following passages, two illustrious writers make fun of certain interpretations of what a model in science is. Read the passages carefully and then answer the questions.

Text A – Cartographer

On rigor in science

In that Empire, the Art of Cartography reached such Perfection that the map of a single Province occupied an entire City, and the map of the Empire, an entire Province. Over time, these Immeasurable Maps did not satisfy and the Colleges of Cartographers erected a Map of the Empire, which equaled the Empire in size and precisely coincided with it. Less Dedicated to the Study of Cartography, the Successive Generations understood that that vast Map was Useless and not without Mercy they abandoned it to the Inclements of the Sun and Winters. In the deserts of the West lie abandoned the Ruins of the Map, inhabited by Beasts and Beggars; no other relic of the Geographical Discipline remains in the whole country. (Borges, from The Artificer, Adelphi, 1999)

Text B- Mr. Palomar

There was in the life of Mr. Palomar a time when his rule was this: first, to construct a model in the mind, the most perfect, logical, geometric possible; second, to verify if such a model adapts to the practical cases observable in the experiment; third, to make the corrections necessary for the model and reality to coincide. This procedure seemed to Palomar the only one able to allow him to face the most tangled human problems. [...] The model is by definition the one in which there is nothing to modify, the one that works with perfection; while reality, we see well that it does not work and that it smashes on all sides; therefore, it only remains to compel it to acquire the form of the model, for good or ill (Calvino, 1994, p. 97-98). (Calvino, Palomar, Einaudi, 1983)

As can be seen from the excerpts, the cartographer and Mr. Palomar have two rather different images of the "perfect model".

For the cartographer

- 1a What is (or what characterizes) a scientifically perfect model for the cartographer?
- 2a What should this model be used for in the intentions of the cartographer?
- 3a What "embarrassing" consequences could the cartographer's vision lead to?

For Mr. Palomar

- 1b What is (or what characterizes) a scientifically perfect model for Mr. Palomar?
- 2b What should this model be used for in Mr. Palomar's intentions?
- 3b What "embarrassing" consequences could Mr. Palomar's vision lead to?

If you were to characterize a model in physics, which elements of the two views would you consider? And which ones would you discard? Justify your answers.

